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Title

Pilot Study: Feasibility of a Whole-Food, Plant-Based Dietary Intervention for Patients with Low-Risk Chronic Lymphocytic Leukemia

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Research Question

Chronic Lymphocytic Leukemia (CLL) is the most common form of adult leukemia in Western countries. Patients who are asymptomatic with low-risk disease according to the modified Rai staging criteria, do not require immediate treatment and may be monitored using a "watch and wait" approach. Diet has been identified as modifiable risk factors for several types of cancer, though little is known about the relationship between diet and CLL. Given the standard of care for this patient population is observation, there is a unique opportunity to intervene with dietary modification and assess the impact on disease course. This pilot study aimed to explore the feasibility of adherence to an 8-week, whole-food, plant-based (WFPB) dietary intervention for patients with low-risk CLL.

Data and Methods

This was a two-phase feasibility study. In phase one, research personnel adapted and modified the dietary intervention (DI) over the course of three months. Phase two involved implementation of the intervention. A total of 19 subjects with low-risk CLL were enrolled into 4 sequential cohorts ranging from 3 to 8 individuals. This was a within subject design where all participants received a one-on-one orientation outlining the DI from a registered dietitian (RD) prior to starting the intervention. Over the course of 8 weeks, subjects attended weekly virtual group cooking classes lead by a RD, and weekly individual health coaching sessions with a certified health coach. Additional individual dietary counseling was provided by the RD during week 1, week 4 and week 8. Primary outcomes assessed measures of feasibility and adherence to the DI. Adherence was assessed with 3-day dietary journals obtained throughout the intervention as well as pre and post food frequency questionnaires. Cooking class attendance was also used as a marker of adherence. The acceptability and feasibility of the DI was assessed using an end of study satisfaction survey. Secondary outcomes evaluated changes in hematologic biomarkers including white blood cell count and absolute lymphocyte count, as well as cardiometabolic biomarkers and anthropometric indices.

Results

A total of 18 subjects completed the intervention with a dropout rate of 5%. Data is currently being analyzed, though preliminary findings suggest feasibility of the DI.

Significance

This is the first prospective study to utilize a WFPB dietary intervention in patients with CLL. Our approach emphasizes a wholesome dietary pattern rather than focusing on specific anti-inflammatory foods or micronutrients. Additional research is needed to assess the long-term impact of dietary interventions on disease course and to further understand potential underlying mechanisms.